

The opinion in support of the decision being entered today  
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JAY H. CONNELLY and HERMAN D'HOOGE

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Appeal 2007-0591  
Application 09/250,940<sup>1</sup>  
Technology Center 2600

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Decided: July 19, 2007

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Before JAMES D. THOMAS, KENNETH W. HAIRSTON, and ALLEN R.  
MACDONALD, *Administrative Patent Judges*.

MACDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> Filing date: February 18, 1999. The real party in interest is Intel Corporation.

## STATEMENT OF THE CASE<sup>2</sup>

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 2-11, 13-16, 18-27, 29-33<sup>3</sup>, 38, and 41-48 entered April 5, 2005. We have jurisdiction under 35 U.S.C. § 6(b).<sup>4</sup>

Appellants invented a method, apparatus, and medium for controlling an electronic device. The system allows control of the electronic device using command signals which are broadcast with data signals. For example, the command signal can be used to control a home appliance while the data signal is being output to a television. (Specification 5:3-12).

As best representative of the disclosed and claimed invention, claim 41 is reproduced below:

41. A communication and control system, comprising:  
an input device generating a data signal;  
a command device generating a command signal associated with the data signal;  
a first device receiving the data and the command signal associated with the data signal, the first device generating a transmission signal including the data signal and the associated command signal;  
a second device receiving the transmission signal and extracting the data signal and the associated command signal from the transmission signal;

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<sup>2</sup> Throughout our opinion, we shall make references to Appellants' Appeal Brief ("Br.") filed on March 27, 2006, and Reply Brief ("Reply Br.") filed on July 13, 2006, and also to the Examiner's Answer ("Answer") mailed on June 16, 2006, for the respective details thereof.

<sup>3</sup> The Examiner noted that the status of the claims in the Appeal Brief was incorrect and that the rejection of claims 34-36 was withdrawn (Answer 2).

<sup>4</sup> Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. See 37 C.F.R. § 41.37(c)(1)(vii) (2004).

an output device receiving the data signal from the second device; and

at least one target device controlled automatically as a function of the associated command signal while the output device provides an output as a function of the data signal.

## REFERENCES

The references relied upon by the Examiner in rejecting the claims on appeal are as follows:

Jackson	US 5,963,264	Oct. 5, 1999
Michaud	US 6,057,874	May 2, 2000
Adams	US 6,108,042	Aug. 22, 2000

Claims 2-9, 12-16, 18-27, 29-32, 38, and 41-48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Michaud and Jackson; and

Claims 10, 11, and 33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Michaud, Jackson, and Adams.

Claims 1, 12, 17, 28, 37, 39, and 40 are canceled.

Claims 34-36 are allowed.<sup>5</sup>

Appellants contend that the Examiner has failed to show the following:

(a) Jackson refers to an IR code list, an IR selection, an EPG selection, and an EPG, none of which disclose or suggest the recited command signal for the following reasons:

(i) The [IR] list is not used to control a device, for example, the VCR 38 of Jackson, while data with which the list was transmitted is

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<sup>5</sup> The Examiner noted that the statement of the status of claims contained in the brief was incorrect and the rejection as to claims 34-36 was withdrawn. (See Answer 14).

output by an output device, for example, the TV/monitor 36 of Jackson. Instead, the list is stored in a memory 18, while data with which the list was transmitted is output by the TV/monitor 36. (Br. 26:4-13).

(ii) "..., the IR selection is not transmitted in a transmission signal with a data signal.... Rather, the IR selection is (a) provided by user without data for output by an output device and (b) used by the IR generator 23 to transmit an IR signal to the VCR 38 separate from any data that might be output by an output device..." (Br. 26:20-26).

(iii) "The [EPG] selection is not transmitted in a transmission signal with a data signal... transmission of the video and audio signals is entirely separate from transmission of the EPG selection. The video and audio signals are received from uplink center 1 and the EPG selection is received from a user." (Br. 26:31 thru 27:12).

(iv) "...the EPG is not a command signal. ... The EPG is used for comparison with a previously stored signal (the EPG selection 7 stored in a memory 15) to determine when a selected program starts and stops. Based on the comparison, the CPU 16 controls the VCR 38. However, the EPG itself is not a signal that commands such control." (Br. 27:14-18).

Appellants further contend that the cited art fails to show the following:

(v) "..., nowhere does Jackson disclose or suggest controlling the VCR 38 in accordance with the EPG *while* outputting data at the TV/Monitor 36, where the output data and the EPG are transmitted together....the VCR 38 may be controlled immediately subsequent to

the output of data with which the EPG was transmitted; not at the same time.” (Br. 27:22-31).

(vi) “Neither Michaud nor Jackson suggest a modification of Michaud such that a command signal and data signal transmitted together control a target device and cause output by an output device simultaneously.” (Br. 28:11-14).

(vii) “...VCR 38 may be controlled immediately subsequent to the output of data with which the EPG was transmitted; **not at the same time**. ...other data **transmitted subsequent to the transmission of the EPG** would be output at the TV/monitor 36.” (Reply Br. 4, emphasis in original).

We Affirm.

#### ISSUE

Whether Appellants have shown that the Examiner has erred in rejecting claims 2-11, 13-16, 18-27, 29-33, 38, and 41-48 based on obviousness.

The issue specifically turns on:

Whether the combination of Michaud and Jackson teach or suggest at least one target device controlled automatically as a function of the associated command signal while the output device provides an output as a function of the data signal.

## FINDINGS OF FACT

The following findings of fact (FF) are believed to be supported by a preponderance of the evidence.

### *Findings Related to Claim Construction*

1. The phrase “while the output device provides an output as a function of the data signal” is illustrated in the Specification in the following manner: “The data signal may display the TV program on the television set *while* the command signal may control an intensity of the lights in the room in which the TV program is being viewed. Thus, the lights may be dimmed or brightened at selected times *during* the TV program.” (emphasis added) (Specification 5).

2. The ordinary and usual meaning of “while” is (a) during the time that [take a nap ~ I’m out]; (b) as long as [~ there’s life there’s hope]. *Merriam-Webster’s Collegiate Dictionary*, p.1426 (11<sup>th</sup> Edition 2005).

3. The Specification does not provide a lexicographic definition for the term “a command signal *associated* with the data signal”.

4. The ordinary and usual meaning of “*associated with*” is any relationship in any way.

### *The Invention*

5. Appellants state at page 4 of the Specification that the invention comprises an output device 25 that may include, e.g., a display device such as a television set,... . Target device 35 may include, e.g., ...a VCR (Video Cassette Recorder),... .

6. In addition, the Specification specifically points out that “the broadcaster, *e.g.*, may also control the VCR to record the TV program requested by the user”. (Specification 10:29-30).

*The scope and content of the prior art*

*Michaud*

7. The scope and content of Michaud is not disputed by Appellants.

8. We adopt the Examiner’s findings that Michaud discloses:

an input device generating a data signal;

a command device generating a command signal associated with the data signal;

a first device receiving the data signal and the command signal associated with the data signal, the first device generating a transmission signal including data signal and the command and the associated command signal;

a second device receiving the transmission signal and extracting the data signal and the associated command signal from the transmission signal; and

the output device receiving the data signal from the second device.

(Answer 3-4).

*Jackson*

9. We adopt the Examiner’s findings that:

Jackson teaches that a digital satellite receiving system receives and processes a digital data stream containing television programming information, EPG information, and a list of video cassette recorders (VCRs) and corresponding

infrared (IR) codes used to control the listed models of VCRs contained in the list, ... the digital receiving system uses the codes saved in nonvolatile memory to generate and transmit an IR signal to the VCR to start recording when the EPG determines the selected event begins, the EPG and selected program are monitored during recording, at the end of the program, a transmitted IR signal terminates the recording operation (see abstract, Figs. 1 and 2, col. 3, line 32 to col. 6, line 27).

(Answer 4-5).

10. We also highlight further aspects of the prior art Jackson:
  - a. The prior art Jackson discloses that there is a great need for a television receiver that can receive IR codes from a remote programming source via a data stream, and use these IR codes to control a VCR in real time to automatically record programs selected from an EPG (Electronic Programming Guide). (Col. 1, ll. 60-67).
  - b. Jackson also discloses that a digital data stream conforming to the MPEG-2 standard contains television programming, an EPG, and hardware specific VCR IR codes. The digital data stream is transmitted from an uplink center to a satellite, which re-directs the data stream to subscribers. (Col. 2, ll. 47-52).
  - c. In Jackson, the satellite receiver continuously monitors the data stream for updates to the EPG so that recording operations may be coordinated to reflect last minute changes to programming schedules. (Col. 2, ll. 64-67).



- d. In Jackson, “the recording process thereby begins when the programming selection is actually aired, and not necessarily when it was originally scheduled to begin. Thus, the present invention allows for real-time schedule changes to occur for both starting time and stopping time, such as a sporting event which goes into overtime, and ensures the entire program will be recorded... .” (Col. 5, ll. 61-67).

11. Thus, Jackson shows that the following feature found in Appellants’ claim 41 is known in the prior art:

...at least one target device controlled automatically as a function of the associated command signal while the output device provides an output as a function of the data signal.

*Adams*

12. We adopt the Examiner’s findings that:

“Adams et al teach that the satellite receiver 14 enables reception of packetized digital data streams over a satellite link. The packetized digital data streams received by the satellite receiver 14 include video data packets, audio data packets, and associated data packets. The satellite receiver 14 transfers the received digital data stream packets to the computer system 10 over a communication line 30 (Fig. 1, col. 4, lines 9-27).”

(Answer 13).

13. We also highlight the further aspects of the prior art Adams:

- a. In Adams, the computer system 10 extracts associated data packets of the incoming packetized digital data stream on the communication line 30 and decodes the associated data

packets according to a predefined video command and control protocol. (Col. 4, ll. 48-52).

## PRINCIPLES OF LAW

### *Principles Of Law Relating To Obviousness*

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12

(1966) (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.*

The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

## ANALYSIS

Whether the combination of Michaud and Jackson teach or suggest at least one target device controlled automatically as a function of the associated command signal *while* the output device provides an output as a function of the data signal.

For claims 2-9, 11, 13-16, 18-27, 29-32, 38, and 41-48, Appellants merely repeat the same arguments made for claim 41. For claims 10 and 33, Appellants add an additional argument. We will therefore treat claims 2-9, 11, 13-16, 18-27, 29-32, 38, and 41-48 as standing or falling with claim 41.

We address the Appellants' arguments regarding claims 10 and 33 separately below. *See* 37 C.F.R. § 41.37(c)(1)(vii). *See also In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).

*Claim Interpretation.*

Claims are given their broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004).

The Board is required to use a different standard for construing claims than that used by district courts. We have held that it is error for the Board to “appl[y] the mode of claim interpretation that is used by courts in litigation, when interpreting the claims of issued patents in connection with determinations of infringement and validity.” *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989); accord *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997) (“It would be inconsistent with the role assigned to the PTO in issuing a patent to require it to interpret claims in the same manner as judges who, post-issuance, operate under the assumption the patent is valid.”). Instead, as we explained above, the PTO is obligated to give claims their broadest reasonable interpretation during examination. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004).

Appellants do not dispute that Michaud teaches all the elements of the claimed device but for automatically controlling a target device as a function of an associated command signal *while* the output device provides an output as a function of the data signal. (Appeal Br. 5)

After recognizing that Michaud fails to disclose the above noted feature, the Examiner relies on Jackson, explaining that Jackson discloses that a digital satellite receiving system receives and processes a digital data stream containing television programming information, EPG information, and a list of video cassette recorders (VCRs) and corresponding infrared (IR) codes used to control the listed models of VCRs contained in the list. (Answer 4-5).

Initially, we note that although Appellants have argued that Jackson's VCR 38 may be controlled *immediately subsequent to* the output of data with which the EPG was transmitted, not at the same time nor simultaneously therewith, Appellants have not defined such a strict time occurrence in the claims, particularly claim 41. As noted above, during patent prosecution, claims are construed as broadly as is reasonable. Hence, the claimed "...controlled automatically as a function of the associated command signal *while* the output device provides an output as a function of the data signal" reads on automatically controlled *during* or *as long as* there is any output by the output device, not merely at the "same time" or "simultaneously" with the start of the output, as suggested by Appellants. Hence, the claimed term "*while*" reads on any portion *during* or *as long as* the data signal is being transmitted, not just the portion immediately at the start thereof. (FF 1 and 2).

#### *The Level Of Ordinary Skill in the Pertinent Art*

Neither the Examiner nor Appellants have addressed the level of ordinary skill in the pertinent art addressed herein. Accordingly, we will consider Michaud, Jackson, and Adams as representative of the level of

ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355, 59 USPQ2d 1795, 1797 (Fed. Cir. 2001) (“[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error ‘where the prior art itself reflects an appropriate level and a need for testimony is not shown.’”). Appellants have presented no evidence of secondary considerations of non-obviousness for our consideration.

### *Obviousness*

Jackson specifically discloses that a television receiver receives IR codes from a remote programming source via a data stream, and uses these IR codes to control a VCR in real time to automatically record programs selected from an EPG (FF 10a). Jackson uses a digital data stream that contains television programming, an EPG, and hardware specific VCR IR codes (FF 10b). As a result, Jackson describes automatically controlling a VCR in real time based on IR codes transmitted via a data stream. Even if Jackson stores the IR list in memory, and both the IR selection and the EPG selection are not transmitted in a transmission signal with the data signal, Jackson does describe a digital data stream that includes an EPG, IR codes and data signals (television programming). Thus, Jackson discloses transmitting both the codes used to control the VCR and the output data signal relating to the television program. Furthermore, Jackson continuously monitors the data stream for updates to the EPG so that recording operations may be coordinated to reflect last minute changes to programming schedules (FF 10c). As a result, Jackson can control the VCR when the associated data signal is actually airing, and not necessarily when it was originally

scheduled to begin (FF 10d). As such, Jackson shows an association between the data signal and the command signal. (FF 3-4).

As to the claim requirement that a target device is controlled automatically as a function of the associated command signal *while* the output device provides an output as a function of the data signal, this claim limitation relates to a transmission signal including the data signal and an associated command signal. In other words, the command signal and the data signal are required to be associated with each other. We note that both Michaud and Jackson disclose a transmission signal that includes a data signal (e.g., a television program) and command signal (FF 8, 10b) related to recording the television program. Furthermore, Jackson discloses controlling the VCR *while* outputting the data signal (FF 10a). Thus, an association between controlling the VCR and outputting the data signal is shown in Jackson.

Appellants' own disclosure contemplates using a television set and a VCR combination as the output device and target device, respectively, and that the VCR may be controlled to record TV programs (FF 5 and 6). Such a combination of devices, e.g., a television set and a VCR, necessarily requires that the control of the VCR be *during* the outputting of the TV program. However, it is our view that the claim language has not limited the control of the target device to any particular portion of the TV program, just *while* the program is airing.

Thus, it is our view that the combination of Michaud and Jackson have disclosed an association between the command signal and the data signal. Thus, it would have been obvious to a person of ordinary skill in the

art to have applied Jackson's automatic control of the VCR to Michaud's system to result in the subject matter of claim 41.

Accordingly, the Examiner's obviousness rejection of representative claim 41 is sustained based on the combination of Michaud and Jackson.

*Claims 10 and 33 Argued Separately*

Regarding claims 10 and 33, Appellants contend that "while Adams et al. may provide for packetized digital data streams, nowhere does the combination of Michaud, Jackson, and Adams et al. disclose or suggest attachment of a command signal "to a data packet...*including the data signal*" if the transmission signal is in the digital format, as recited in claim 10" (Br. 33:3-6 and Br. 34:3-6). While Adams discloses a packetized digital data stream, Jackson further discloses a "digital data stream" conforming to the MPEG-2 standard that contains television programming (e.g., data signals), an EPG, and hardware specific VCR IR codes (e.g., command signals) (FF 10b). As such, both Adams and Jackson contemplate using a digital data stream with Adams further disclosing a packetized form thereof and Jackson further disclosing a digital data stream including both data signals and command signals. Thus, it is our view that it would have been obvious to a person of ordinary skill in the art to have a data packet including the data signal and command signal when the transmission signal is in the digital format as taught by Jackson and Adams, to result in the subject matter of claims 10 and 33.

Therefore, we will sustain the Examiner's rejection under 35 U.S.C. § 103 for the same reasons as set forth above.



### CONCLUSION

Appellants have failed to establish that the Examiner erred in rejecting claims 2-9, 12-16, 18-27, 29-32, 38, and 41-48 as being unpatentable under 35 U.S.C. § 103(a) over Michaud and Jackson.

Appellant have further failed to established that the Examiner erred in rejecting claims 10, 11, and 33 as being unpatentable under 35 U.S.C. § 103(a) over Michaud, Jackson, and Adams.

Thus, claims 2-11, 13-16, 18-27, 29-33, 38, and 41-48 are not patentable.

### DECISION

In view of the foregoing discussion, we affirm the Examiner's rejection under 35 U.S.C. § 103 of claims 2-11, 13-16, 18-27, 29-33, 38, and 41-48.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2007-0591  
Application 09/250,940

AFFIRMED

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